

SPECIFICATION AMENDMENTS  
MULTI-TAPERED DENTAL FILES

CROSS-REFERENCE TO RELATED APPLICATION

5        This application claims the benefit of U.S. Provisional Application No. 60/266,066, filed February 5, 2001.

This application is a continuation from PCT application Serial No. PCT/US02/03516.

      The present invention relates generally to endodontic  
10 instruments and, more particularly, to root canal files used in the cleaning of material present in the root canal of a human tooth and for enlarging and shaping the root canal so that it may be prepared for filling.

      A relatively common but difficult dental procedure is  
15 the shaping, cleaning, and filling of the root canal of a patient's tooth. In the performance of a root canal procedure, a hole is first cut in the crown or exposed portion of the tooth, typically either in the biting surface of the tooth, for posterior teeth, or in the side of the tooth on the interior of  
20 the jaw for incisor teeth. Small endodontic instruments known generally as root canal files are then used to clean out the material present in the root canal, and to impart a tapered shape to the root canal so that filling material may be inserted into the root canal to seal it.

25        When a root canal is being cleaned and shaped, in one particular preparation system, a series of files having increasing diameters are used to gradually enlarge the root canal. The files are held between the thumb and forefinger of one hand by the dentist. Each file in one set of the known prior  
30 art has an identical taper from one end to the other of the cutting flutes portion. For example, in a typical K-type file set the taper is 0.32 millimeters on every file over the standard 16 mm length of cutting flutes, or 0.02 mm of taper/mm of flute length. This taper is sometimes referred to as a standard ISO  
35 (International Standards Organization) taper. Although these file sets have identical tapers, they come in a number of sizes. The size number characterizing the file is the diameter of the

file at the tip in hundredths of a millimeter, and the diameter of the file at the large end is thus 0.32 millimeters greater than this tip diameter. A complete set will include sizes 06, 08, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 70, 80, 90, 100, 5 110, 120, 130, and 140, while sizes 08-60 will typically be used. Some manufacturers make certain half-sizes, or off-standard sizes.